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Report of the Secretary-General

Addendum

Integrated approach to the planning and management of land resources*

(Chapter 10 of Agenda 21)

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* The report was prepared by the Food and Agriculture Organization of the United Nations as task manager for chapter 10 of Agenda 21, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development (IACSD). It is the result of consultation and information exchange between United Nations agencies, international and national science organizations, interested government agencies and a range of other institutions and individuals.

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I. KEY OBJECTIVES

1. This report reviews progress made in the implementation of the objectives set out in chapter 10 of Agenda 21 (Integrated approach to the planning and management of land resources),[1] taking into account the decisions taken by the Commission on Sustainable Development on this subject at its third session, in 1995. The principle objective of chapter 10 of Agenda 21 is the promotion of an integrated approach to the planning and management of land resources. This is to be achieved by a mix of management-related activities, support of data and information systems and international and regional coordination and cooperation. As the chapter deals with an important cross-sectoral aspect of decision-making for sustainable development, it is closely related to a number of other chapters of Agenda 21, particularly those in sections II and IV thereof.

2. In more specific terms, the objectives of chapter 10, which were given time-frames for implementation, are as follows:

(a) To review and develop policies to support the best possible use of land and the sustainable management of land resources, by not later than 1996, (the terms "land" and "land resources" are here understood to be used in a general and comprehensive sense, and to include for example, water, flora, fauna and other natural resources related to land);

(b) To improve and strengthen land planning, management, and evaluation systems, by not later than the year 2000;

(c) To strengthen institutions and coordinating mechanisms for land and land resources, by not later than 1998;

(d) To create mechanisms to facilitate the active involvement and participation of all concerned stakeholders, by not later than 1996.

3. The first of the above objectives is the most important of the four, since it will perform the key integrative function which ensures that all inputs and activities are combined. The absence of an integrated approach to land resources management, both for production and for conservation, is the single most important failure today, in both developed and developing countries. The immediate cause of this almost always appears to be institutional, as the development and evolution of human institutions - for information-gathering and assimilation, for negotiation and decision-making, for provision of services and implementation - has seriously lagged behind the growth of populations, technology, and social and economic needs.

II. SUCCESSES

A. Development of policies and methodology

4. Many countries have developed, or are in the process of developing national environment policies. However it is necessary that these should not remain as policies only, but should be translated into practical programmes of

implementation. Assistance in this area has been provided by the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) under a joint project to develop a holistic structural framework which combines stakeholders, information and institutions with incentives to produce and to conserve. The starting point is the knowledge that production will increase in proportion to the extent to which constraints are removed and incentives are offered, and that users will conserve resources where it is made in their interests to do so. Secondly, resource use will be most efficient when it is managed through stakeholder negotiation, and when all stakeholders are provided with adequate information as a basis for negotiation and decision-making. For this to take place, appropriate institutional frameworks and information systems need to be established. In this regard, special attention needs to be paid to stakeholder groups which are at present disadvantaged in terms of ability to negotiate on equal terms.

5. It is recognized that decisions and negotiations on the use of essentially the same basic resources take place at many social and institutional levels, from farm level to global level, and that the negotiating and decision-making structures must be integrated both horizontally and vertically in terms of allocation, needs and objectives. The term "land-use planning", which in the past has referred mainly to spatial planning of physical resources, and to planning alone, often in a top-down setting, is in many ways no longer appropriate or adequate to describe an all-encompassing and holistic framework which combines all aspects of the process of land (and associated resources) management for maximum sustainable production and for the satisfaction of all other human needs, such as shelter and the preservation of biodiversity.

6. Under the joint FAO/UNEP programme, two expert consultations were held during 1995. The above principles were fully developed, and embodied in practical proposals. Three publications describing the approach are under preparation. The new approach is already being discussed, and is beginning to be adopted by a number of countries. It will be further developed and publicized at several future workshops and conferences. While it will probably be a number of years before the principles become universally known, and are adapted and widely applied, there are good grounds for optimism in this regard.

B. Planning, management and evaluation systems

7. Decisions about land use involve optimizing the match between land resources and land use. Until now there has been no practical and internationally agreed system to precisely define land cover, land use, or production systems. This has been a serious constraint to the development of a global set of detailed statistics, which in turn has made the monitoring of changes in land use and land cover difficult. Lack of a conceptual framework to describe and define land use and cover has also been one of the most serious constraints in relation to the identification of viable alternatives, or improvement of present land use and production systems. Three years ago FAO and UNEP, in collaboration with national institutions, launched an initiative to develop a logical and practical system, for both definition and classification. The result of this work is scheduled to be published late in 1996. Software

packages for defining and storing both land-cover and land-use information, developed under the same initiative, were already available prior to this.

8. Despite these difficulties in definition and concept, however, a number of land resources information systems, particularly with respect to forest resources, have been developed. Geographical information systems, interfaced with databases containing information on land resources as well as social and economic information, are also being increasingly established in both developed and developing countries, sometimes even at the village level. Progress over the next few years in this area is likely to be rapid, although more so in those economies having greater access to financial and technological resources. Two aspects are at present driving the process: the rapid digitization of thematic maps at all scales and the linking of subject-matter to specific institutional databases. At the same time, availability to the public is sometimes limited by government regulations and by commercial enterprises wishing to sell information.

9. In relation to information, three key aspects need to be clearly understood. The first is that information to enable stakeholders of all classes to make rational decisions comprises more than just soil, climate and other physical data. It must also include information on potential markets, varieties of alternative crops, production systems, laws and regulations, availability and prices of inputs, and a number of other factors. Secondly, the information must be regularly available to all stakeholders, including those at the grass-roots level. This requires innovative thinking about development of appropriate information dissemination systems. Thirdly, availability of information must be combined with appropriate education and training on how to use and analyse it, and on how to negotiate on a more equal basis with other classes of stakeholders, such as commercial interests.

10. Governments need to be aware that they cannot by themselves shoulder the entire task of providing the whole range of necessary information at all levels. A very significant part has to be played by private sector organizations, such as commercial radio and television, newspapers, and stakeholder associations. The present rapid spread of information networks and Internet linkages throughout the world presents an opportunity to actively and purposefully disseminate the information and data necessary for logical decision-making and negotiation to all classes of stakeholders, including those who, up to now, have not been recipients.

11. The need for training and education in this general area needs to be emphasized. This includes training in the use and interpretation of information, as well as in the operation of information systems. An increasing number of computer software packages are becoming available for monitoring, mapping, and analysing land resources and land-use data at all levels. There is also an increasing availability of remotely sensed data to serve as inputs and raw material for thematic mapping, land-use mapping, and environmental monitoring.

C. Institutions and coordinating mechanisms

12. The conception and implementation of land resources planning and management are complex undertakings requiring the participation of several ministries at the national level as well as of regional and local authorities and the private sector. Many of the existing institutional arrangements do not provide conditions which facilitate joint public-private activity or improve citizen participation and transparency in land management.

13. Much more progress is required in this general area, particularly with regard to the structure of government institutions. A first step would be the establishment of further horizontal linkages, which would promote the exchange of information and help to ensure a more integrated approach.

D. People's participation

14. The need for the involvement of all those concerned with land use and management, particularly communities and people at the local level, is becoming more widely accepted day by day. A useful body of experience is being built up by Governments, non-governmental organizations, and development agencies in developing countries, and this is now beginning to be collected and analysed from the point of view of the types of structures that are the most successful in representing stakeholder interests in the long term, and how these can best be established. In some developing countries, limits on government resources have led to a devolution of responsibility from the central level, giving greater control to communities over the management of their local resources. Overall, the past few years have seen the establishment of a large number and wide range of local-level organizations active in the area of land (and associated resources) management.

15. An increasing number of practical programmes designed to involve local populations in resource management or to actually make them responsible for the process (as opposed to simply providing the opportunity for "consultation" in relation to programmes designed and implemented by Governments) are now being implemented. Some of the more successful original approaches, largely, though not entirely, occurring in developing countries, are now being fine-tuned and improved, and applied in a wider range of circumstances. Since the United Nations Conference on Environment and Development (UNCED), national-level programmes designed to encourage greater local participation in land-use planning and resource management, particularly with respect to forests, have been initiated, consolidated, or significantly expanded. Among them are the Model Forests Programme in Canada, Joint Forest Management in India, the Community Forestry Programme in Nepal and the Land Care Programme in Australia.

16. The World Bank's experience in Africa suggests that land resources should be managed at the lowest possible level, using demand-based approaches and involving stakeholders, particularly women, in decision-making. The Bank also makes the point that land should be treated as both a social and an economic resource. Many other organizations have come to the same conclusions, both on the African continent and in other parts of the world.

17. In a number of countries a greater effort has been made in recent years to provide the means for people to express their views on plans related to the use of public land or for regulating the use of private land. In addition, the past five years have produced a rapid increase in the number and strength of non-governmental organizations worldwide, many of which provide a means for reflecting local interests at the national and even international levels.

III. PROMISING CHANGES

18. In including chapter 10 in Agenda 21, UNCED participants accepted the importance of promoting an integrated approach to all aspects of land resources management; since 1992, at the national level, the need to take action to implement this commitment has been increasingly recognized. Over the past few months alone, over 30 Governments have requested assistance in this area from FAO. National authorities are also becoming more open to discussing and considering more fundamental and radical options to land management, which may involve changing existing institutional structures which can often be a major constraint to effective action. The growing dialogue with interested Governments provides an ideal opportunity to further develop and test the proposed integrated approach to all aspects of land resources management put forward by FAO and UNEP, referred to above, and to draw donors, development agencies, and recipient countries into a partnership dialogue.

19. A number of countries have made practical and significant progress in the decentralization of power and the devolution of decision-making to levels that facilitate the involvement of the local population. This is resulting in greater accountability of government institutions at this level, and the beginnings of a demand-driven approach to the provision of services. There are also indications of a growing partnership between Governments and non-government organizations in development and land resources management, and a growing mutual understanding of the respective strengths and weaknesses of each side.

IV. UNFULFILLED EXPECTATIONS

20. There is already considerable awareness of the importance of an integrated approach to the planning and management of land resources, and the rapidly growing interest in the proposals being developed jointly by FAO and UNEP on the basis of existing knowledge and past experience has been encouraging. It is to be expected, however, that a different approach to land resources planning will take some years to be disseminated and implemented worldwide, particularly since it may involve significant institutional change. The world community should therefore take a realistic attitude in terms of the necessary time-scale for the programme. Progress towards widespread adoption of the approach will, moreover, be affected by a lack of sufficient resources. The harsh economic climate in the period since UNCED has meant that available professional and monetary resources have actually decreased drastically over the period, rather than increasing to reflect the extra efforts implicit in the follow-up to the Conference. It has also affected the ability of the United Nations organizations concerned to develop the institutional linkages necessary for a more rational combined approach to this work.

21. As noted above, while there has been a rapid development of land-related information systems in those economies having access to adequate financial and technological resources, information systems in many developing countries have been severely limited by the non-availability of basic natural resource data and information, by undeveloped market infrastructure, and by a lack of institutional capability. Furthermore, during recent years there has been a swing away from basic resource mapping, both on the part of the countries themselves and on the part of donors. There is now a need for such information for decision-making, by land users as well as by Governments, but it is in many cases not available. This, and the provision of equipment and training for information collection, including mapping, and system development, is an area in which donors could make very positive contributions.

22. In addition, for all countries, more complete information and the definition of several important concepts are required to accurately monitor the health of natural systems, or to design and apply land-use and management systems which are sustainable and appropriate under the different sets of physical, social and economic conditions which exist in the world. Two areas in which no international agreement has yet been reached are:

(a) Ecozones of the world, and their components, as a basis for monitoring environmental change and development of broad management guidelines and policies;

(b) Environmental condition indicators, which are not the same as sustainability indicators, but refer to the current status (or "health") of an environmental unit in the sense of its degradation or productivity status.

V. EMERGING PRIORITIES

23. Increased population levels and unsustainable resource use have produced social and environmental problems which are among the most serious that society now faces. While global population growth rates seem to have stabilized in recent years, these pressures are still increasing, particularly in many parts of Africa and Asia, regions where food production requirements will likely be greatest over the coming half century. They argue for the need to devise and apply more efficient systems of resource management as the greatest emerging priority facing the world.

24. With the initial conceptualization phase of the FAO/UNEP joint initiative well on the way to completion, there is now a growing need for funding to support dissemination and discussion of the proposed integrated approach through conferences and workshops, and to support a rapidly expanding field programme of implementation. While it is recognized that donors have their own financial constraints, it is hoped that they will recognize the potential of an integrated over a dispersed approach, and will enter into a dialogue concerning the methodology which is being developed, in order to be apprised of its potential.

25. Chapter 10 has special relevance to all 14 chapters of section II of Agenda 21, and more than half of all the chapters of Agenda 21 mention or stress the need for land-use planning in one form or another. Other chapters, for

example 28, 38, 39 and 40, have special relevance for chapter 10. In the case of chapter 40 there are large areas of overlap and a particular need for an integrated approach, which is at present lacking.

26. Continuing rapid urbanization in developing countries is resulting in substantial land-use changes in the urban, peri-urban and even rural areas. The inability of planning functions and provision of services to keep ahead of urban population growth is manifested in the development of squatter settlements and slums; problems of pollution, water supply and waste disposal; and a host of social and economic problems. There is a growing need to integrate urban needs with those of the surrounding rural, or once rural areas; to assess changes in the peri-urban areas in response to rapid urbanization; to prepare strategies to meet the concentrated demands for food, energy and various material goods; to ensure that urban development proceeds in an environmentally sound manner; and to involve all stakeholders in urban development projects.

27. The need to prepare and continuously update plans to address the effects of natural disasters is also emerging as a priority. Such occurrences often result from the impact of local concentrations of human populations where activities such as deforestation trigger land slides or flooding. Alternative causes may relate to the more long-term effects on global systems and the environment.

Notes

[1] Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.